Columbia River Salmon and Steelhead Endorsement Recreational Anglers Board
Application for Funding

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Proposal Title: MONITORING OF SNAKE RIVER SPRING CHINOOK SALMON FISHERIES - **renewal**

Date of submission: December 21, 2012 (revised December 17, 2015)

Effective Period of Funding: March 1, 2016-February 28, 2017

Amount of Funding Requested: $90,735

Activity to be funded: Fishery monitoring (creel surveys) and tag recovery of Snake River spring Chinook salmon fisheries

Background:

Lower Snake River spring/summer Chinook salmon fisheries are set up under the umbrella of Endangered Species Act (ESA) allowable impacts established for the Columbia River main-stem fishery. The pre-season run prediction for upriver stock returns for 2016 is 188,000, which is less than the 2015 pre-season prediction of 232,500. The ESA impact limit for 2016 is likely to be 1.9% for Columbia River non-tribal and Wanapum tribal fisheries, based on the pre-season run prediction. The Snake River ESA and catch balancing allocation levels are not currently available, but funding must be secured for monitoring the maximum likely Snake River spring Chinook salmon fisheries. The Washington Department of Fish and Wildlife (WDFW) usually sets aside 15% of the total Columbia River main-stem non-tribal ESA impacts for limited fisheries in the Snake River below the Washington/Idaho border. In 2015, the fishery was only open three days a week at each location and monitoring occurred on two days per week. Little Goose and Ice Harbor Dam areas were terminated early, in early May, because high harvest rates used much of the pre-season harvest allocation goal for the Snake River. Additional impacts were added to the fishery and all areas were reopened in early June and ran through the month on a three days per week schedule. The 2015 fishery report is not complete yet, but should be available by March 2016.

Below describes potential fisheries by priority, pending the ESA and expected harvest allocation calculations in March or early April.

Fishery Locations:

Proposed fisheries may occur in four areas. The first two are listed in priority, while areas three and four could be implemented in any order. For example, if the run was small we might only be able to open the Little Goose Fishery. We are unsure at this time what areas may be open during the 2016 fishery. The approximate fishing areas are described below:

1) Little Goose Fishery: From Texas Rapids boat launch (south side of the river upstream of the mouth of Tucannon River) to the fishing restriction boundary below Little Goose Dam;
2) Ice Harbor Fishery: Approximately a 7 mile section of the lower Snake River below Ice Harbor Dam (from the south bound Hwy 12 bridge upstream to the fishing closure area about 400 feet below Ice Harbor Dam);
3) Clarkston Fishery: From the powerlines crossing the Snake River just upstream from the junction of West Evans Road and Highway 12 upstream approximately 3.5 miles to a boundary line perpendicular across the Snake River at Clarkston from the point of land at the USACE "Greenbelt" boat launch to the WA border sign on the north shore (map of the Clearwater/Snake confluence and state boundaries is included in the fishing pamphlet).
4) Lower Granite Fishery: Snake River from the south shore boat launch (Ilia Boat Launch) across to the mouth of Almota Creek upstream about four miles to the restricted fishing area below Lower Granite Dam.

Timing/Daily Limits:

The Ice Harbor fishery is expected to be open from approximately April 20-30, a few days earlier than the other fishery zones. At this time we expect fisheries would be set to close no later than mid-June unless the run is stronger than predicted, harvest is limited, or impacts are added from the lower river. Snake River fisheries may close earlier based on in-season fish return updates, water temperatures, harvest rate, and/or wild fish encounters. In 2016, the fisheries are likely to be restricted to a limited number of days per week to try and spread fishing out over more week), but could be open seven days per week. These fisheries will continue each week depending on remaining harvest allocations and ESA impacts. The daily limits are anticipated to be four to six hatchery Chinook salmon per day, of which only 1 or 2 can be adults. Proposed fisheries will be discussed with the public at one or two public meetings in March and finalized in April for public notification through emergency regulations and news releases to open these fisheries.

Proposed Activity: CREEL MONITORING

WDFW is required to monitor the spring Chinook salmon fisheries implemented in the Snake River basin to determine harvest and the impacts of recreational fishing on ESA listed spring Chinook salmon populations. Based on the results of the statistical review of our methods as part of our 2013 contract, we wish to try and improve our monitoring methods and provide statistically appropriate estimates with confidence limits in our reporting. We plan to monitor

the fisheries at least one or two weekdays (20-40% sample rate) and one or two weekend days (50-100%) each week, depending on area. During our statistical review, the consulting statistician concluded that increasing the number of days sampled, especially on weekends, would provide tighter confidence intervals and help us achieve the desired monitoring precision. With that in mind, we plan to complete weekly estimates for the fisheries by sampling two weekdays and two weekend days each week for a 7day/week fishery. Monitoring these fisheries requires three staff at Ice Harbor, two staff at Little Goose, one or two staff at Lower Granite and one staff at Clarkston per sample day. Sampling dates for all areas will be randomly selected utilizing standard statistical sampling protocols. Creel staff will work 8-12 hour schedules each survey day. We will use a randomly selected early or late start time for conducting counts, with systematic counts throughout the sample day, to estimate angling pressure and harvest over the approximately 15 hour angling day. Staff will make two or more angler counts on each survey day, and they will conduct as many angler interviews as possible throughout the fishery area between the angler count periods. We will increase our catch rate information for boat anglers in some fishery zones by posting a creel technician at selected boat launches at the same time as angler counts and roving creel interviews are conducted by another creel technician.

WDFW expanded sampling efforts of boat anglers in 2012-2015 because the sampling rate for boat anglers had been lower than needed to produce catch rates and harvest estimates with sufficient accuracy and precision. We will continue this expanded sampling of boat anglers in 2016. Fish Management staff will compile and distribute creel survey summaries approximately every week.

Assistance Required:

WDFW requests funding to provide creel monitoring of the 2016 Snake River spring Chinook salmon fishery (Table 1). The funding for fishery monitoring efforts includes staff, monitoring equipment, materials, vehicle lease/mileage and/or maintenance costs, depending on vehicle ownership. Boat operation costs will be kept in this proposal as part of the budget request in case we feel use of the boat is needed to improve boat angler interview data collection. Funding will be needed for a WDFW biologist to enter and validate the field sampling data in a computer spreadsheet. The Fish and Wildlife Biologist 2 will likely conduct some creel sampling as necessary to fill in when technicians are unavailable and/or to field test the sampling design or to train technicians. Funding will also be needed for assistance with completion of the fishery summary report at the end of the season. Funding for the Biologist 2 has been reduced by 0.5 month and Scientific Technician 4 (previously Scientific Technician 3) was increased by 1 month in the current proposal because of staff changes within the office. This funding will pay for increased workload for these fisheries including the new statistical calculations. It is anticipated that up to 10 staff months of Scientific Technician 2 time will be needed to effectively monitor the four areas open for this fishery through the anticipated mid-June termination date. This is the same funding as requested in 2015. The funding request is anticipated to be the maximum required if fisheries in all four of the above fishery zones can be implemented through early June.

Table 1. Budget Estimate for 2016.

Requested Funds for Fishery Monitoring *	
Salaries	
1 FW Biologist 2 (2.5 month @ $4,562/mo)	$11,405
1 Scientific Technician 4 (2 month @ $3,934/mo)	$7,868
~5 Scientific Technician 2 (10 months @ $3,229/mo)	$32,290
Benefits	
1 FW Biologist 2 (2.5 month @ $1,848/mo)	$4,620
1 Scientific Technician 3 (2 month @ $1,730/mo)	$3,460
~5 Scientific Technician 2 (10 months @ $1,597/mo)	$15,970
Personnel Services	
Data Processing Services	$291
Personnel Fee	$201
Subtotal	**$76,105**
Goods and Services	
Vehicle Mileage/lease (4-5 vehicles)	$12,305
Boat operation & maintenance	$825
Sampling Materials	
Misc. sampling materials	$1500
Sub total	**$14,630**
Total Budget Amount Requested*	**$90,735**

*CRSSRAB Request for 2016spring Chinook salmon fishery monitoring is shown, but some of the fishery planning, harvest calculations, and report compilation is provided as cost share using alternate WDFW funding.

Need for Proposed Activity:

Creel monitoring is required by the National Marine Fisheries Service (NMFS) Columbia River Management Agreement BiOp and *US v OR* agreements for spring Chinook salmon fisheries implemented in the Snake River Basin. The primary objective of the creel monitoring is to determine ESA impacts to listed populations (including estimated number of naturally produced salmon caught and released) and estimated harvest of adult hatchery Chinook salmon. Ancillary to monitoring ESA impact will be estimates of angler effort and jack salmon catch and harvest in addition to recovery of coded-wire tags (CWT), and passive integrated transponder (PIT) tags, which will identify hatchery origin and provide recovery data for those hatchery programs contributing to the fishery opportunity.

Benefit of Proposed Activity:

The statistical review completed in 2013 has helped focus our efforts for sampling to ensure that our creel monitoring produces accurate and precise statistical estimates of harvest, angler effort and numbers of released adult Chinook salmon. The proposed monitoring allows WDFW to

implement spring Chinook salmon fisheries within the ESA framework established for Columbia Basin mainstem fisheries. The proposed monitoring will enable WDFW to adequately sample the anticipated fisheries throughout the maximum anticipated fishery season and open geographic areas. All creel clerks must have access to a CWT wand and a PIT tag detector. This sampling enables WDFW to account for contributing sources of harvested spring Chinook salmon and the potential impacts of fisheries on those stocks of fish.

After public input, WDFW opened four Snake River areas for spring Chinook salmon fishing in 2015. The open areas consisted of below Ice Harbor Dam (from Hwy 12 bridge upstream about 7 miles), near Little Goose Dam (from Texas Rapids boat launch upstream to the dam), below Lower Granite Dam (from the Ilia Boat Launch on the south across to the mouth of Almota Creek upstream about four miles to the restricted fishing area below Lower Granite Dam) and near Clarkston (from the downstream edge of the large power lines crossing the Snake River, just upstream from West Evans Road on the south shore, upstream about 3.5 miles to the Washington state line). WDFW was funded by the Columbia River Salmon and Steelhead Endorsement Recreational Angler Board to monitor these Snake River spring Chinook salmon fisheries that would not have been available to the public without adequate funding for monitoring.

These fishing areas were open three days per week with Ice Harbor and Lower Granite open Sunday to Tuesday and Little Goose and Clarkston open Thursday to Saturday. Sampling occurred on two days (one early and one late creel) per three day block. Angler use was very high below Ice Harbor and at Little Goose dams. Peak angler counts documented 192 shore and 235 boat anglers (107 boats) in the approximately seven miles below Ice Harbor Dam, plus 153 shore and 61 boat anglers (26 boats) near Little Goose Dam. Peak catch rates were 21.0 hours (hrs)/fish caught from shore and 34.4 hrs/fish from boats below Ice Harbor, and 19.1 hrs/fish caught from "the wall" on the south shore at Little Goose Dam, 9.8 hrs/fish from shore, and 14.8 hrs/fish from boat anglers near Little Goose Dam. The fishery near Clarkston was also very good in 2015 with low, clear water conditions. The Clarkston fishery is mainly a boat fishery and had peak boat angler count of 120 with a catch rate of 8.7 hrs/fish caught. Because of the high level of effort and harvest, these areas were closed after the third three day period in early May. The Lower Granite fishery was allowed to continue for one additional three day period, but closed 12 May. As the run continued to emerge, additional opportunity was given and Ice Harbor, Little Goose and Clarkston reopened on the original schedule near the beginning of June and were open three days per week through 30 June. Effort and harvest were generally down during this later season.

Preliminary results from the 2015 spring Chinook salmon fisheries in the Washington portion of the Snake River show that the Ice Harbor area had the highest angler effort but Little Goose had the highest harvest (Table 2). This fishery was similar to 2014, with areas closing and then reopening at a later time. This fishery was difficult to plan for an and keep staff available, was very labor intensive, and required more intensive monitoring and coordination than previous spring Chinook salmon fisheries in the Snake River.

Table 2. Preliminary results of the 2015 Snake River spring Chinook salmon fisheries.

Location	Expanded Adult & Jack Harvest (Total Adults)	Expanded Adult & Jack Releases (Total Adults)	Angler Effort (hrs)	Angler Trips (Angler days = AT)	Economic value (AT x $58/trip)[a]
Ice Harbor	644 (623 Ad)	148 (139 Ad)	21,732	4,087	$237,046
Little Goose	783 (761 Ad)	164 (136 Ad)	16,541	3,613	$209,554
Lower Granite	42 (42 Ad)	6 (6 Ad)	2,348	445	$25,810
Clarkston	474 (474 Ad)	97 (97 Ad)	6,465	1,214	$70,412
Totals	**1,943 (1,900 Ad)**	**415 (378 Ad)**	**47,077**	**9,359**	**$542,822**

[a] the $58/day estimate is from Wegge (2008).

The economic values in the right column in the table above are based on 2006 dollars. They could be increased by 2.5-3% per year to approximate the economic value in 2015 dollars, plus NMFS used $86 per angler day in their 2013 Environment Assessment of the Columbia Basin hatchery programs.

Additional Considerations:

Non-tribal sport/recreational spring Chinook salmon fisheries in the Snake River contribute considerably to the economic well-being and quality of life for residents and small communities in southeast Washington. The localized fisheries can provide significant benefits to small businesses in small rural communities with limited opportunity for attracting outside income. The proportion of total economic benefits provided by these fisheries is often much higher in these small rural communities than in larger communities with more diversified and larger economies. Additionally, Chinook salmon fisheries also contribute to achieving tribal and non-tribal mitigation and recovery goals. The ability to provide adequate monitoring of these fisheries allows resource managers to open the fisheries and meet ESA requirements. A summary report for the 2015 Snake River spring Chinook salmon fisheries should be available from WDFW by late March 2016.